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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Katsuyoshi Okabe

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EXAMINER

NGUYEN, SON T

ART UNIT

PAPER NUMBER

3643

NOTIFICATION DATE

DELIVERY MODE

04/29/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/560,051	Applicant(s) OKABE ET AL.	
	Examiner Son T. Nguyen	Art Unit 3643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-9 is/are pending in the application.
- 4a) Of the above claim(s) 3-6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,7-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not). Misnumbered claim 10 has been renumbered claim 9. In addition, the dependency to claim 9 has been renumbered to claim 8.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1,7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cole et al. (2003/0101645A1) in view of JP11-56118 (on form PTO-1449, herein JP118,) Knablein et al. (4291494), and Lai (5983562).**

For claim 1, Cole et al. teach an apparatus for producing seedlings comprising: a closed-type structure (20) surrounded by light-interceptive thermally insulating walls (11-13); multi-staged seedling culture shelves (30) provided with a plurality of shelf boards (31) capable of mounting grafted seedlings (G) thereon, said seedling culture shelves being disposed within said closed-type structure; a plurality of artificial lighting devices

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(35) capable of projecting light onto the grafted seedlings and a plurality of fans (107,109) capable of generating air stream over each of said seedling culture shelves; an air conditioning unit (112) capable of controlling the temperature and the humidity within said closed-type structure; a carbon dioxide gas supply unit (36,38, see [0055]) capable of supplying carbon dioxide gas into said closed-type structure.

However, Cole et al. are silent about said a respective artificial lighting device of said plurality of artificial lighting devices and a respective fan of said plurality of fans being installed on each of said seedling culture shelves; and a light-transmitting shield detachably disposed to cover the grafted seedlings mounted on each of said plurality shelf boards of said seedling culture shelves, wherein said light-transmitting shield includes a plurality of vent holes; wherein the plurality of vent holes of said light-transmitting shield are provided with means of varying an open area of the vent hole thereof; wherein said light-transmitting shield includes two side faces that are parallel to a direction of a flow of the air stream, wherein said two side faces are opposing and non-adjacent side faces of said light-transmitting shield, and wherein said plurality of vent holes are formed in said two side faces of said light-transmitting shield to generate a static pressure from the flow of the air stream, such that said plurality of vent holes are formed in the opposing and non-adjacent side faces of said light-transmitting shield, and such that the static pressure provides a gas exchange between an inner space of the closed-type structure and an inner space of said light-transmitting shield.

JP118 teaches an apparatus for producing seedlings comprising an artificial lighting device (29) and fans (32) being installed on a each seedling culture shelf

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(23,27). It would have been obvious to one having ordinary skill in the art at the time the invention was made to install an artificial lighting device and a fan on each shelf as taught by JP118 directly on the seedling culture shelves of Cole et al. in order to provide more direct and concentrate light and air ventilation to each of the plants on each shelf.

Knablein et al. teach an apparatus for producing seedlings comprising a light-transmitting shield (12) detachably disposed to cover the grafted seedlings mounted on shelf boards/containers, said light-transmitting shield being provided with a plurality of vent holes (39); wherein the plurality of vent holes of said light-transmitting shield are provided with means (50) of varying an open area of the vent hole thereof; and wherein said light-transmitting shield includes two side faces (30-34) that are parallel to a direction of a flow of the air stream (depending on air flow patterns because the air flow into vent can be of various directions), wherein said two side faces are opposing and non-adjacent side faces of said light-transmitting shield, and wherein said plurality of vent holes are formed in said side faces (top side faces 30) of said light-transmitting shield to generate a static pressure from the flow of the air stream, such that the static pressure provides a gas exchange between an inner space of the closed-type structure and an inner space of said light-transmitting shield (inherently taught in Knablein et al. because air flow will circulate within the interior of the shield). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a light-transmitting shield with vent holes on side faces and means of varying the rate of hole area as taught by Knablein et al. over the seedlings mounted on the

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shelf boards of Coles et al. in order to protect the seedlings therein and in order to control the air flow rate entering the interior thereof.

Lai teaches a light-transmitting shield (22,26) having a plurality of vent holes (222) are formed in the opposing and non-adjacent side faces of said light-transmitting shield. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a plurality of vent holes on various side faces as further taught by Lai of the shield of Coles et al. as modified by JP118 and Knablein et al., in order to prevent molding by providing more ventilation.

For claim 7, Coles et al. as modified by JP118, Knablein et al. and Lai are silent about wherein the apparatus includes a plurality of said light-transmitting shields, each of said plurality of said light-transmitting shields being mounted on a respective shelf board of said plurality of shelf boards. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a plurality of said light-transmitting shields, each of said plurality of said light-transmitting shields being mounted on a respective shelf board of said plurality of shelf boards in the apparatus of Coles et al. as modified by JP118, Knablein et al. and Lai, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art.

For claim 8, Coles et al. as modified by JP118, Knablein et al. and Lai teaches wherein said light-transmitting shield includes five sides (of Knablein et al.), wherein said five sides of said light-transmitting shield includes (i) a top side, (ii) said two side faces that are opposing and non-adjacent side faces having the plurality of vent holes

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(of Lai modified to Knablein et al. for more ventilation holes) formed therein, and (iii) two additional opposing and non-adjacent sides, wherein, when said light-transmitting shield is disposed to cover the grafted seedlings, said top side is located above the grafted seedlings, wherein, when said light-transmitting shield is disposed to cover the grafted seedlings, said two side faces are located at sides of the grafted seedlings, and wherein, when said light-transmitting shield is disposed to cover the grafted seedlings, said two additional opposing and non-adjacent sides are located at sides of the grafted seedlings, and wherein none of said two side faces of said light-transmitting shield having the plurality of vent holes formed therein are located at said top side of said light-transmitting shield.

For claim 9, Coles et al. as modified by JP118, Knablein et al. and Lai is silent about wherein the direction of the flow of the air stream is such that (i) the air stream flows along said two side faces of said light-transmitting shield, and (ii) the air stream flows perpendicular to said two additional opposing an non-adjacent sides. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have direction of the flow of the air stream is such that (i) the air stream flows along said two side faces of said light-transmitting shield, and (ii) the air stream flows perpendicular to said two additional opposing an non-adjacent sides in the apparatus of Coles et al. as modified by JP118, Knablein et al. and Lai, depending on how the air is injected or traveled to the sides. Note that the sides are merely flat surfaces, thus, any direction of air would flow along the side faces, and any air stream flows would be perpendicular to the sides depending on the user's injection of the air into the shield's

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interior. In addition, as stated by Applicant in paragraph [0044] of 2007/0089359, as long as the holes exist in the side faces, the air stream will flow in parallel to the side faces. This phenomenon occurs in the combination of Coles et al. as modified by JP118, Knablein et al. and Lai because vent holes (as taught by Lai) will be in side faces of the shield (as taught by Knablein), thus, will generate by the air stream flowing in parallel to the side faces.

Response to Arguments

4. Applicant's arguments with respect to claims 1 & 7 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son T. Nguyen whose telephone number is 571-272-6889. The examiner can normally be reached on Mon-Thu from 10:00am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter M. Poon can be reached on 571-272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Son T. Nguyen/
Primary Examiner, Art Unit 3643